



2011-2012 COLLEGE CATALOG ADDENDUM

PUBLISHED JANUARY 2, 2012

COSUMNES RIVER COLLEGE

catalog 2011-2012



2011-2012 College Catalog Addendum

INTRODUCTION

Beginning in the 2010-2011 College Catalog Year, the Cosumnes River College Curriculum Committee and Academic Senate approved the production of a mid-year College Catalog Addendum. The purpose of the Catalog Addendum is to make correction of errors in the existing Academic Year Catalog and to add new courses and programs that are approved for offering beginning in the Spring Semester.

CORRECTIONS OF ERROR

P. 124

Certificate of Proficiency – Computer Information Science – Network Helpdesk Technician: Remove the *CISC 290, Exploring CIS Careers* course from the Required Program. The total required units remain the same.

P. 124

A.S. Degree – Computer Information Science, Server Administrator: Remove the *CISC 290, Exploring CIS Careers* course from the Required Program. The total required units changes from “26.5-29.5” to “25.5-29.5”

P. 125

A.S. Degree – Computer Information Science, Enterprise Administrator: Remove the *CISC 290 Exploring CIS Careers* course from the Required Program. The total required units changes from “39.5-42.5” to “38.5-41.5”.

P. 129

A.S. Degree – Computer Information Science, Information Systems Security: Remove the *CISC 290, Exploring CIS Careers* course from the Required Program. The total required units changes from “34.5-37.5” to “33.5-36.5”.

P. 196

A.A. Degree – Finance: (1) Remove *MKT 310, Selling Professionally, MKT 330, Internet Marketing* and *RE 300, California Real Estate Principles* from the Required Program. These three courses are already listed correctly in the Degree under the section “A minimum of 3 units from the following.” (2) Remove the word “or” in front of *MKT 330, Internet Marketing* under the section “A minimum of 3 units from the following.”

P. 227

A.S. Degree – Horticulture, Landscape Technology: Remove the *HORT 360 Sustainable, Turf Management I* course from the Required Program. The total required units remain the same.

P. 229

Certificate of Achievement – Landscape Technology: Remove the *HORT 360, Sustainable Turf Management I* course from the Required Program. The total required units remain the same.

P. 344

A.S. Degree – Veterinary Technology: (1) Under the “Second Year (Spring):” add a footnote to the units for the *VT 298, Work Experience in Veterinary Technology* course so it reads as follows: *VT 298, Work Experience in Veterinary Technology 1-4⁶*. (2) Add a sixth footnote under the Required Program that reads as follows: “Beginning with the entering class of 2010-11, students must complete a minimum of 300 hours of internship/work experience. Students in a paid work experience earn one unit for a minimum of 75 hours. Students in an unpaid work experience earn one unit for a minimum of 60 hours. Work Experience is repeatable when there is new or expanded learning on the job.”

P. 344

Certificate of Achievement - Veterinary Technology: (1) Remove the *BIOL 401, Principles of Biology for Veterinary Technicians* course from the second bulleted sentence under the Enrollment Eligibility Section. (2) Add the *BIOL 310, General Biology* course to the second bulleted sentence under the Enrollment Eligibility Section. The sentence will now read “Completion of *BIOL 310* or *BIOL 400* with a grade of “C” or better.” (3) Change the number of units for the course *VT 134, Large Animal Nursing* from 3.0 to 1.5 units. Change the number of “Total Units Required” in the Program from 41-44 to 40. (4) Change the word “Larger” to “Large” in the course title of *VT 134*.

P. 345

Course - *VT 111, Anatomy-Physiology of Animals*: (1) Remove *BIOL 401* from the prerequisite section of the course. (2) Add *BIOL 310* to the prerequisite section of the course. The sentence will now read “Prerequisite: *BIOL 310* or *400*, and *CHEM 305* or *307* with grades of “C” or better”

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P. 350

Certificate of Proficiency – Welding: The Welding Certificate is incorrect. Please replace the existing program with the following correction:

CERTIFICATE OF PROFICIENCY**Welding**

Code #1245

REQUIRED PROGRAM

Course #	Course Title	Units
WELD 100	Introduction to Welding	3
WELD 110*	Adv SMAW and Semi-Automatic Process (3)	6*
WELD 114	Preparation for Welding Certification	2
WELD 290	Advanced Student Projects	2
A minimum of 3 units from the following:		3
MATH 20	Arithmetic (5)	
WELD 112	TIG, Other Ferrous & Non-Ferrous Welding (3)	
CMT 300	Introduction to Construction Plans and Specifications (3) OR any Automotive Technology class (3)	
TOTAL UNITS REQUIRED		16

* 3 unit course to be taken twice for credit

NEWLY APPROVED COURSES FOR GENERAL EDUCATION REQUIREMENTS FOR CRC AA/AS DEGREES

CRC GE approved courses 2011-2012

Course #	Course Title	GE Area	Units	Eff Term
ANTH 331	The Anthropology of Religion	V (b)	3	SP-2012
ARTH 325	Native American Art History	I	3	SP-2012

NEWLY APPROVED COURSES FOR UC TRANSFER

UC Transfer approved courses 2011-2012

Course #	Course Title	Units	Eff Term
ANTH 323	Introduction to Archaeology	3	FA-2011
ANTH 324	World Prehistory	3	FA-2011
TA 476	Fundamentals of Repertory Production	.5-6	FA-2011

NEW COURSES**ADT 317
Building Information Modeling (BIM) III 3 Units**

Prerequisite: None.

Advisory: ADT 310 and 316; Students' knowledge and/or skills may be evaluated by the instructor on an individual basis, in lieu of the two Advisory Courses listed.

Course Transferable to CSU

Hours: 36 hours LEC; 54 hours LAB

This course instructs students in the beginning level of Building Information Modeling as it relates to parametric modeling and Green Building/LEED® (Leadership in Energy and Environmental Design) for 'Building Systems' drawing and design using software such as AutoDesk's Revit® MEP. The content is a first level introduction course of data-generated Parametric Building Modeling software for Mechanical, Electrical, and Plumbing systems; illustrating how the MEP (Mechanical-Electrical-Plumbing) software drawing designs integrate with Revit® Architecture and/or Revit® Structure. This course may be repeated up to three times for credit because of new software version updates.

**ADT 319
Building Information Modeling (BIM) IV 3 Units**

Prerequisite: None.

Advisory: ADT 310 and 316; Students' knowledge and/or skills may be evaluated by the instructor on an individual basis, in lieu of the two Advisory Courses listed.

Course Transferable to CSU

Hours: 36 hours LEC; 54 hours LAB

This course instructs students in the beginning level of Building Information Modeling as it relates to parametric modeling and Green Building/LEED® (Leadership in Energy and Environmental Design) guidelines for structural drawing and design using software such as AutoDesk's Revit® Structure. The content is a first level introduction course of data-generated Parametric Building Modeling software for Structures; illustrating how the Structure software drawing designs integrate with Revit® Architecture and/or Revit® MEP. This course may be repeated up to three times for credit because of new software version updates.

**ANTH 331
The Anthropology of Religion 3 Units**

Prerequisite: None.

Advisory: Eligibility for ENGWR 300

General Education: AA/AS Area V(b); AA/AS Area VI; CSU Area D1; IGETC Area 4A

Course Transferable to CSU

Hours: 54 hours LEC

This course is a cross-cultural study of the forms and functions of supernatural beliefs and associated rituals in various societies around the world. Emphasis of the course is on understanding beliefs and rituals within their social contexts and on broad comparisons to derive insight into the general functions of beliefs and rituals in human life.

**ARTH 325
Native American Art History 3 Units**

Prerequisite: None.

General Education: AA/AS Area 1

Course Transferable to CSU

Hours: 54 hours LEC

This course studies the arts and culture of Native peoples of North America. It discusses the artistic traditions of native peoples of the Ancient and Eastern Woodlands, the Plains, the Southwest, California, the Northwest Coast, and the Arctic and Subarctic regions as well as examples of contemporary Native American art. Comparisons will be made between individual Native American cultures and between Native and Euro-centric cultures.

**CONST 140
Location, Site Sustainability,
and Water Conservation 1.5 Units**

Prerequisite: None.

Hours: 27 hours LEC

This course is intended to be the first in the series of Green Building courses. Each course in the series focuses on specific pieces of the larger Green Building sector. This course covers the following topics: Review of general green building principles, location & linkages and fundamentals of green urban planning, and site stewardship. We will also discuss efficient landscaping and surface water management, current topics in outdoor and indoor water conservation, storm water and water pollution control, and water reuse systems. This course satisfies the elective units for the CRC Green Building Certificate.

**CONST 141
Green Materials and Techniques
for the Structural Frame and
Building Envelope 1.5 Units**

Prerequisite: None.

Hours: 27 hours LEC

This course is intended to be the second in the series of Green Building courses, although the sequence is not mandatory. Each course in the series focuses on specific pieces of the larger Green Building sector. This course covers the following topics: Alternative building materials, Embodied energy and product life span information, topics in thermal and moisture barriers, air infiltration reduction, and insulation for the building envelope. Efficient framing, and waste reduction and diversion are also discussed. Course content is broken into two distinct categories: Foundations and structures, and mechanical and interior finishes. This course satisfies the elective units for the CRC Green Building Certificate.

CONST 142 **Energy, Performance, and Indoor Air Quality 3 Units**

Prerequisite: None.

Hours: 54 hours LEC

This course is intended to be the third in the series of Green Building courses, although the sequence is not mandatory. Each course in the series focuses on specific pieces of the larger Green Building sector. This course covers the following topics: The science of energy and its sources, as well as the common alternative and renewable sources of energy that are being researched and developed. Green building guidelines and state energy efficiency standards for buildings and appliances will also be examined. The “Whole House approach” to Building Performance will be an under-current throughout the course. Indoor Air Quality, and other health topics will be introduced. This course satisfies the elective units for the CRC Green Building Certificate.

CONST 143 **Photovoltaic Systems 3 Units**

Prerequisite: None.

Hours: 54 hours LEC

This course will cover general solar industry topics with an emphasis photovoltaic principles and products. There will be a brief study of the political landscape in California in support of the California Solar Initiative, and market strategies and incentives will also be discussed. There will be some hands on projects to help students learn basic electrical theory and circuits, and an introduction to print reading. System Sizing and components will be covered as well. This class is part of the Green Buildings: Environmental Design, Energy Management and Performance Based Construction Certificate.

CONST 144 **Case Studies in Current Sustainable Building Topics 1.5 Units**

Prerequisite: None.

Hours: 9 hours LEC; 54 hours LAB

This course is intended to give students the flexibility to propose their own Green Building topics of study to fulfill requirements for the CRC Green Building Certificate. Topics will be chosen by students. Case studies will entail establishing a criteria guided by the instructor to synthesize elements of the students interest, with a clear set of goals for the student to report on, and present to other students at the end of the class. Topics are open to any concepts where students can show adequate connection to the principles of green building and sustainability. The individual or team research will culminate in a written report for the instructor, and an oral presentation to the class.

Possible topics could include, but are not limited to green landscape, green plumbing, mechanical or electrical, alternative energies, marketability of green businesses, or even a particular product or process. This course can be taken twice, but there must be a clear distinction between topics chosen, and must meet prior instructor approval.

CONST 162 **Residential Energy Science and the Global Perspective 3 Units**

Prerequisite: None.

Hours: 54 hours LEC

This course is designed to improve “energy literacy” in students, and is a requirement in the Residential Building Performance and Energy Assessment degree and certificate. The course examines many of the careers in the new “Green Economy”, and then focuses on the science behind energy production, transmission, and consumption. Principles of energy are discussed, and the science of how energy is utilized in the built environment. Current topics in international energy policies will also be examined.

CONST 163 **Advanced Energy Auditing and Energy Modeling 3 Units**

Prerequisite: None.

Advisory: CONST 161

Hours: 54 hours LEC

This course prepares students for jobs in the building performance and energy auditing industry. This class will train students in advanced energy auditing techniques using energy modeling software, and thermography. Students will be trained to use energy modeling software recognized by the California Energy Commission for both new and existing structures. Students will also be trained to use infra red imaging for accurate, non-invasive inspection of homes, assisting the auditor in locating thermal bridging in the building envelope. Topics in Multifamily and “Envelope Professional” certification will also be discussed.

HORT 314 **Greenhouse Operations 3 Units**

Prerequisite: HORT 300 with a grade of “C” or better

Advisory: HORT 302, 303, 310, and 312

Course Transferable to CSU

Hours: 36 hours LEC; 54 hours LAB

This course is the study of the problems and practices of commercial greenhouse operations and management including the design, construction, and use of enclosed structures to manipulate controlled environments, greenhouse crop production, integrated pest management in greenhouses, and the production and marketing of greenhouse crops. Emphasis will be placed on greenhouse structures utilized for commercial nursery crop production and retail nursery greenhouse marketing facilities. Field trips may be required.

HORT 315 Nursery Crop Production and Management 3 Units

Prerequisite: None.

Advisory: HORT 300, 302, 303, 310, and 312

Course Transferable to CSU

Hours: 36 hours LEC; 54 hours LAB

This course cover the principles and practices of producing, growing, and managing container plant crops for sale in wholesale and retail nurseries and garden centers. Topics include advanced propagation methods, best practices for container stock production, common problems encountered when growing in containers, container production systems, growing media and media blends, container plant nutrition and fertilizer management, the nursery crop production environment, nursery irrigation and water management, integrated pest management in nursery crop production, and marketing nursery crops. Field trips may be required.

PHARM 315 Pharmaceutical Calculations 3 Units

Prerequisite: MATH 100 and PHARM 300 with grades of "C" or better

Corequisite: PHARM 320

Course Transferable to CSU

Hours: 45 hours LEC; 27 hours LAB

This course presents the mathematical concepts and practical experience required for students to pass the math portion of the Pharmacy Technician Certification Examination. Through lecture demonstrations and practice problem sets, students will learn the skills essential for calculating and preparing pharmaceutical dosages in both community and institutional pharmacy settings.

NEW PROGRAMS

CERTIFICATE OF PROFICIENCY

Building Performance and Energy Assessment

Code #1968

The Building Performance and Energy Assessment program trains industry professionals in the principles of building science, energy consumption in homes, and focuses on specific standards for efficiency, comfort, health and occupant safety. The program also gives students a more global view of energy literacy. We offer two tracks, one geared more for weatherization and trade technicians, and the other for energy auditing and third party verification jobs. Both tracks utilize recognized industry curriculum in building science, and prepare students to certify with the nationally recognized Building Performance Institute, as Certified Building Analysts.

REQUIRED PROGRAM

Course #	Course Title	Units
CONST 160	Introduction to Residential Building Performance	6
CONST 161	Intermediate Residential Building Performance and Energy Auditing	4
CONST 103	OSHA 10 Hour Safety Training	1
TOTAL UNITS REQUIRED		11

DEGREE

A.A. - Film/Digital Cinema Production

Code# 1969

This Associate of Arts degree program is designed to provide skills in film production, digital cinema, and television through the preparation of projects for viewing on campus, cable TV, the Internet and new technologies. Given the expansion of new media distribution opportunities and the production convergence of High-Definition video and film, students will gain a broad exposure to visual storytelling in a professional environment, including dramatic narrative, documentary and experimental styles. This option can lead to entry-level jobs in the film industry, post-production, television, new media, business and industry. Some of the courses in this major also transfer to a four year university program. Please see a counselor for more information.

Highlights

- Practical experience working with school equipment on productions for viewing on campus, on cable TV and the Internet.
- Working in teams to build projects using a professional approach.
- State-of-the-art digital computer lab for graphics and non-linear editing, including Apple's Final Cut Studio, DVD production, Adobe Photoshop, Adobe Illustrator, Adobe After Effects, and Pro Tools.
- Internship opportunities working in local independent film-makers, post-production facilities and at local television stations.
- Industry guest speakers provide real world examples of how to be successful in the film industry.
- Some courses qualify students to become Apple Certified End Users by taking qualifying software exams in the department's Apple Authorized Training Center®.

Career Opportunities

Camera Operator	Cinematographer
Director of Photography	Lighting Director
Computer Graphic Artist	Non-Linear Video Editor
Audio Engineer	Broadcast Technician
Gaffer	Production Coordinator
Production Assistant	Personal or Corporate Video
TV, Film, DVD or Internet Producer/Director	

Note About Transfer

If you are interested in transferring to a four-year college or university to pursue a bachelor's degree in this major, it is critical that you meet with a CRC counselor to select and plan the courses for your major. Schools vary widely in terms of the required preparation. The courses that CRC requires for an Associate's degree in this major may be different from the requirements needed for the Bachelor's degree.

REQUIRED PROGRAM

Course #	Course Title	Units
RTVF 305	Film History	3
RTVF 319	Digital Audio Production	3
RTVF 330	Basic Film/Video Camera Techniques	3
RTVF 350	Intermediate Film / Digital Cinema Production	3
RTVF 360	Introduction to Motion Graphics: Adobe After Effects	3
RTVF 362	Digital Non-Linear Video Editing: Final Cut Pro	3
PHOTO 302	Beginning Digital Photography OR PHOTO 301 Beginning Photography	3
9 units from the following:		9
RTVF 304	Introduction to Multimedia (3)	
RTVF 347	Lighting for Video, Film and Digital Cinema (1)	
RTVF 351	Introduction to Motion Graphics for Film: Apple Motion (3)	
RTVF 353	Color Correction for Film and Video: Apple Color (3)	
RTVF 354	Audio Editing for Film & Video Post Production (3)	
RTVF 361	Intermediate Motion Graphics: Adobe After Effects (3)	
RTVF 363	Introduction to DVD Production: iDVD & DVD Studio Pro (3)	
RTVF 365	Intermediate Film & Video Editing: Final Cut Pro (3)	
RTVF 371	Hollywood TV and Film Studios: A Behind the Scenes Experience (1)	
RTVF 378	Acting for the Camera (3)	
RTVF 498	Work Experience in Radio, Television and Film (1 - 4)	
FMS 310	Basic Screenwriting (3)	
TOTAL UNITS REQUIRED		30

CERTIFICATE OF ACHIEVEMENT**Sustainable Landscape & Irrigation Systems Design**

Code# 1970

The certificate in Sustainable Landscape and Irrigation Systems Design concentrates on those courses that develop the knowledge, skills, and attitudes essential to creating landscape and irrigation designs that make best use of local resources including soil, water, and construction materials. The courses of this certificate focus on sound horticultural science and principles, proper soil development and management, sustainable landscape and irrigation design, water conservation, sustainable landscape construction and maintenance practices, and integrated pest management.

Career Opportunities

The certificate in Sustainable Landscape and Water System Design provides a strong horticulture foundation, along with the specialized skills and technical knowledge to prepare students for employment opportunities in the field of sustainable landscape planning and irrigation design. Students who complete a certificate in Sustainable Landscape and Water Systems Design find employment in landscape and irrigation design, planning, consultation, installation management, and water systems management. Students may be self-employed, or find employment with landscape design firms, landscape contractors, landscape maintenance firms, or other related service providers. This certificate will also prepare students for advanced training and certification through industry sponsored programs such as the Irrigation Association's (IA) Certified Water Auditor and Certified Water Manager programs.

REQUIRED PROGRAM

Course #	Course Title	Units
HORT 300	Introduction to Horticulture	3
HORT 301	Introduction to Horticulture Laboratory	0.5
HORT 302 OR PLTS 310	Soils , Soil Management, and Plant Nutrition	3
HORT 303 OR PLTS 332	Integrated Pest Management	3
HORT 307	Plant Identification - Sustainable and CA Native Selections	3
HORT 340	Landscape and Irrigation Graphics and Design	3
HORT 341	Landscape Design	3
HORT 342	Landscape Construction and Maintenance for Designers	3
HORT 344	Sustainable Landscape Design	1
HORT 350	Landscape Irrigation	3
HORT 351	Drip and Subsurface Irrigation	2
TOTAL UNITS REQUIRED		27.5

DEGREE**AS-T – Math for Transfer**

Code #1971

The Associate in Science in Mathematics for Transfer degree is designed to meet common lower-division requirements for a major in mathematics at most California State University (CSU) campuses. Satisfactory completion of the CRC Associate in Science in Mathematics for Transfer (AS-T) degree provides a solid foundation and satisfies the standard prerequisites for upper division coursework for mathematics majors at most CSU and other four-year universities. However, it is highly recommended that students meet with a counselor since major and general education requirements vary for each college/university.

Career Opportunities

Mathematicians work as statisticians, analysts, computer programmers, actuaries, researchers, planners, and educators.

Completion Requirements

The Associate in Science in Math for Transfer Degree (AS-T) may be obtained by completing a minimum of 22 semester units in the major with a grade of C or better while maintaining a minimum grade point average (GPA) of at least 2.0 in all transferable coursework. Students must complete 60 transferable, semester unit using either the California State University General Education-Breadth requirements or the Intersegmental General Education Transfer Curriculum (IGETC). No more than 60 transfer units are required for this degree.

Note about Transfer

The Associate Degree for Transfer program is designed for students who plan to transfer to a campus of the California State University (CSU). Other than the required core, the courses you choose to complete this degree will depend to some extent on the selected CSU for transfer. In addition, some CSU-GE Breadth or IGETC requirements can also be completed using courses required for this associate degree for transfer major (known as "double-counting"). Meeting with a counselor to determine the most appropriate course choices will facilitate efficient completion of your transfer requirements. For students wishing to transfer to other universities (UC System, private, or out-of-state), the Associate Degree for Transfer may not provide adequate preparation for upper-division transfer admissions; it is critical that you meet with a CRC counselor to select and plan the courses for the major, as programs vary widely in terms of the required preparation.

REQUIRED PROGRAM

Course #	Course Title	Units
MATH 400*	Calculus I	5
MATH 401*	Calculus II	5
MATH 402*	Calculus III	5
MATH 410*	Introduction to Linear Algebra	3
MATH 420*	Differential Equations	4
MAJOR TOTAL:		22

	General Education (GE) Pattern/Units	Other Transfer Electives	Degree Total
CSU GE Breadth:	39**	4	60
IGETC:	37**	6	60

- continued on next page -

* These courses can double-count for the major and for the appropriate GE area of the CSU GE Breadth and/or IGETC requirements, however there is a limitation on the number that actually can. For this degree, students may be able to double-count MATH 400 for both the major and transfer GE; see a CRC counselor for advice.

** Includes double-counting of five (5) major units for GE, freeing up units for other transfer electives as noted in the table.

DEGREE AS-T – Physics for Transfer Code #1972

The Associate in Science in Physics for Transfer degree provides students with a thorough overview of the field of physics. Students will have demonstrated sufficient understanding in the fields of mechanics, electricity and magnetism, thermodynamics, mechanical and electromagnetic waves, modern physics, the scientific method and mathematics to successfully transfer to a four-year institution with a major in physics.

The Associate in Science in Physics for Transfer degree fulfills the general requirements of the California State University for transfer. Students with this degree will receive priority admission with junior status to the California State University system, although not necessarily to a particular campus or major.

Career Opportunities

This degree is designed to facilitate successful transfer to four-year programs that prepare students for advanced study in physics and related fields including biophysics, physical chemistry, geophysics, and astrophysics. Physicists with undergraduate and graduate degrees have a wide range of employment opportunities including research, engineering, computer programming, and teaching.

Completion Requirements

The Associate in Science in Physics for Transfer Degree (AS-T) may be obtained by completing a minimum of 27 semester units in the major with a grade of C or better while maintaining a minimum grade point average (GPA) of at least 2.0 in all transferable coursework. Students must complete 60 transferable, semester unit using either the California State University General Education-Breadth requirements or the Intersegmental General Education Transfer Curriculum (IGETC). No more than 60 transfer units are required for this degree.

Note about Transfer

The Associate Degree for Transfer program is designed for students who plan to transfer to a campus of the California State University (CSU). Other than the required core, the courses you choose to complete this degree will depend to some extent on the selected CSU for transfer. In addition, some CSU-GE Breadth or IGETC requirements can also be completed using courses required for this associate degree for transfer major (known as "double-counting"). Meeting with a counselor to determine the most appropriate course choices will facilitate efficient completion of your transfer requirements. For students wishing to transfer to other universities (UC System, private, or out-of-state), the Associate Degree for Transfer may not provide adequate preparation for upper-division transfer admissions, because many universities require more lower division courses than those in this degree. Even the CSU's that accept this transfer degree may likely require more lower division courses to achieve the Bachelor degree. Specifically, courses in general chemistry, differential equations, linear algebra, and computer

programming may better prepare the transfer student for certain universities. It is critical that you meet with a CRC counselor to select and plan the courses for the major, as programs vary widely in terms of the required preparation.

REQUIRED PROGRAM

Course #	Course Title	Units
PHYS 411*	Mechanics of Solids and Fluids	4
PHYS 421*	Electricity and Magnetism	4
PHYS 431*	Heat, Waves, Light and Modern Physics	4
MATH 400*	Calculus I	5
MATH 401*	Calculus II	5
MATH 402*	Calculus III	5
MAJOR TOTAL:		27

General Education (GE) Pattern/Units		Other Transfer Electives	Degree Total
CSU GE Breadth:	39**	3	60
IGETC:	37**	5	60

* These courses can double-count for the major and for the appropriate GE area of the CSU GE Breadth and/or IGETC requirements, however there is a limitation on the number that actually can. For this degree, students may be able to double-count PHYS 411 and MATH 400 for both the major and transfer GE; see a CRC counselor for advice.

** Includes double-counting of major units for GE, freeing up units for other transfer electives as noted in the table.

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